

An examination of the New-Brighton skeleton as a whole shows, in the first instance, that it closely resembles in all its principal characteristics that described and figured by Dr. Hector in the Transactions of the New-Zealand Institute, with the exception that it has 62 vertebræ instead of 64 as in the Wellington skeleton. It is, however, possible that there may be some mistake in the number of caudal vertebræ of the latter.

I have looked carefully over the description of the different species of *Balænoptera* accessible to me, and find only one, *B. sibbaldi*, possessing 64 vertebræ, but there are 16 dorsals, or one more than in Dr. Hector's specimen.

Till a specimen of this New-Zealand species is obtained, of which the external form can be exactly ascertained, I do not wish to pronounce a decided opinion as to the specific position of *Balænoptera australis*. However, judging from the evidence before us, the skeleton under review resembles so closely in all its osteological peculiarities that of *B. musculus*, that it would be a most remarkable fact if both did not belong to the same species.

7. On the Terrestrial Mollusca of Dominica, collected during a recent visit to that Island. By GEORGE FRENCH ANGAS, F.L.S., C. M. Z. S.

[Received November 20, 1883.]

The island of Dominica, lying almost midway between Martinique and Guadeloupe, in about 15° north latitude, is the most lofty of the Lesser Antilles, some of its peaks rising to an altitude of over 5000 feet. It is of volcanic formation, and densely wooded, two thirds of the island being still covered by primæval forest. The rainfall averages over 70 inches in the year.

I was certainly disappointed in finding the number of genera and species of Land-shells so limited, and the forms so small, as, from the favourable conditions of the island for molluscan life, I should have expected a richer harvest. I give below a list of the species collected by myself during a two months' visit to this beautiful island, being only some 20 in all.

INOPERCULATA.

SUBULINA (STENOGYRA) OCTONA, Chemn.

Common in most localities, under stones and decayed leaves.

This species appears to have an extended range amongst the West-India islands, reaching to Mexico and Costa Rica.

ZONITES CONCOLOR, Férussac, = *H. baudoni*, Petit.

Not common, at an altitude of 2000 ft.

This species is said to occur also in Porto Rico.

SUCCINEA APPROXIMANS, Shuttleworth.

A small species, of a pale fulvous hue. Not abundant, found at an altitude of 200 or 300 feet.

Described as coming also from Guadaloupe and Porto Rico.

SUCCINEA TIGRINA, Lesueur, = *Amphibulina pardelina*, Guppy.

A very beautiful hyaline shell, irregularly sprinkled with small brown spots. It belongs to the group *Brachyspira* of Pfeiffer.

My specimens were obtained by negro boys at Laudat (2000 ft.) and also near the Liboo River, nestling in the fronds of bananas. One or two were also taken at the base of the falls in the Roseau Valley.

AMPHIBULIMA PATULA, Brug.

This curious species is the type of the genus *Amphibulima* of Blainville. It occurs in company with *S. tigrina* amongst the moist stems of the bananas and plantains, ranging, from 2000 feet at Laudat,

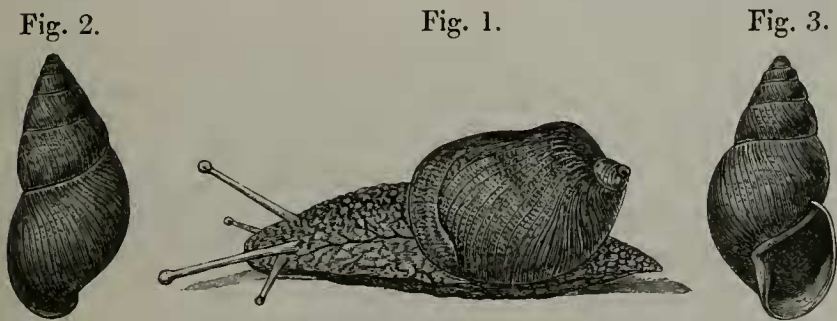


Fig. 1. Shell of *Amphibulima patula* with animal, from life; nat. size.  
2, 3. *Bulimus nicholli*; nat. size.

to the sea-level. I found a very fine specimen with the animal burrowing in the heart of a pine-apple in a negro clearing not ten yards from the sea. It was first found at the island of St. Kitts; and has also been taken in Guadaloupe. I give a figure of the animal from life, which is of a pale greenish yellow, the mantle bordered with orange.

SUCCINEA (OMALONYX) GUADALOUPENSIS, Less.

Of this remarkable species I found only a single specimen, alive, in a damp locality at St. Arament, 200 feet above the sea.

TORNATELLINA (LEPTINARIA) LAMELLATA, Pot. et Mich., = *Tornatellina antillarum*, Shuttleworth.

Somewhat rare; at about 500 feet altitude.

**BULIMUS NICHOLLSI**, A. D. Brown, MSS.

The discovery of this species is due to the researches of Dr. A. D. Brown, of New Jersey, U.S.A., who named it in manuscript after our mutual friend Dr. H. A. Nicholls of Dominica. As, however, he has not given a description of it, I now do so, retaining his manuscript name. It is the largest land-shell hitherto discovered in Dominica, measuring 1 inch 3 lines in length. It occurs on the path from Roseau to Rosalie at an altitude of about 2000 feet. It bears a strong resemblance to some species of the genus *Partula*, especially in the expansion and partial thickening of the outer lip. It is an arboreal species.

Shell rimately perforated, elongately ovate, rather solid, dark olive-brown, finely irregularly longitudinally striated, crossed here and there by very thin concentric lines breaking the longitudinal sculpture, especially on the upper whorls; spire elevately conical; sutures impressed; whorls 6-7, flatly convex; aperture ovate; outer lip slightly expanded and thickened, paler in colour than the rest of the shell; columella triangular, a little thickened and flattened inwards towards the base.

Diam. 7, alt. 10 lines.

*Hab.* Island of Dominica, W. I.

**BULIMUS (LEPTOMERUS) LILIACEUS**, Guilding, MSS.

This pretty species was first met with in the island of St. Vincent by the late Mr. Guilding, who gave it the above MS. name. It was afterwards described and figured by Reeve in the 'Conchologia Iconica.' It is rare in Dominica, on trees in the forests at an altitude of 2000 ft. It may be at once distinguished by its uniform pale primrose-colour.

**BULIMUS (LEPTOMERUS) MULTIFASCIATUS**, Lam.

On trees at an altitude of about 2000 ft., very rare.

**BULIMUS (LEPTOMERUS) EXILIS**, Gmelin.

This species is very abundant on the lower slopes down to the sea-level.

There are at least three well-marked varieties of the shell, viz:—

- a. Entirely of a pale fulvous colour.
- b. With a narrow black band encircling each whorl.
- c. With the base of the last whorl black, and with several broader bands of the same colour surrounding the whorls.

The shells also vary considerably in their proportions as regards length and breadth. The species is terrestrial in its habits.

**HELIX (DENTELLARIA) DENTIENS**, Fér.

This is one of the commonest species of *Helix* in the island, occurring plentifully in various places from 600 or 800 ft. to the sea-level. Under dead logs, loose stones, and decayed leaves.

**HELIX (DENTELLARIA) BADIA**, Fér.

This species, which is smaller than *H. dentiens*, is extremely

abundant everywhere in the neighbourhood of Roseau, down to the sea-level. It is terrestrial, and frequents gardens and plantations. There is a variety of a greenish colour with a decided double brown band, but the normal colour of the shell is dark brown throughout. The specimens I collected vary much in size. The young shells are umbilicated.

10 **HELIX (DENTELLARIA) NIGRESCENS**, Wood.

Remarkable for its globular form and strongly marked dentition. It is common on the Lake-mountain road, and in various localities above 1000 feet.

11 **HELIX (DENTELLARIA) JOSEPHINA**, Fér.

This handsomely marked species is common in places above 1500 feet. I met with it in company with *H. nigrescens*. It occurs also in Martinique and Guadeloupe.

**VAGINULA OCCIDENTALIS**, Guilding.

A slug-like creature, without a shell, belonging to the family *Veronicellidæ*.

I found nine specimens under dead bark in damp places, not far from the sea.

**OPERCULATA.**

12 **CYCLOPHORUS AMETHYSTINUS**, Guppy.

Mr. Guppy, of Trinidad, has described this species in the 'Annals of Natural History' for 1868, but he erroneously calls it a *Cyclotus*, which it is not, it having a *horny* operculum, and not a shelly one as in *Cyclotus*. Above 1200 feet, moderately common.

**HELICINA (PACHYSTOMA) RHODOSTOMA**, Gray.

This beautiful *Helicina* is found sparingly on the track from Roseau to Rosalie on the windward side of the island, at an altitude of about 1500 feet. It is arboreal in its habits. It may be at once distinguished from all other species by the vertical spine at the base of the columella. The peristome is sometimes black, sometimes yellow or white, and occasionally of a deep rose-colour.

13 **HELICINA (PACHYSTOMA) FASCIATA**, Lam., = *H. convexa*, Pfr.

At an altitude of several hundred feet. Also found at St. Vincent and Barbadoes; the Barbadoes specimens are much more brightly coloured and painted. The examples I collected in Dominica vary somewhat in size.

14 **HELICINA (IDESA) VELUTINA**, Guppy.

A small brown species, abundant on all the lower slopes, adhering to rocks and stones.

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December 18, 1883.

Prof. Flower, LL.D., F.R.S., President, in the Chair.

The Secretary made the following report on the additions to the Society's Menagerie during November 1883:—

The total number of registered additions to the Society's Menagerie during the month of November was 109, of which 64 were by presentation, 24 by purchase, 3 by birth, 6 received in exchange, and 12 received on deposit. The total number of departures during the same period, by death and removals, was 132.

The most noticeable additions during the month were:—

1. A pair of Gold Pheasants (*Thaumalea picta*), presented November 16th by Sir Henry W. Tyler, and remarkable for the hen bird having gradually assumed the (now nearly complete) dress of the male.

2. A young pair of the singular Deer of Mantchuria called Père David's Deer (*Cervus davidianus*), purchased November 16th of the Société d'Acclimatation of Paris. The only previous specimens of this animal in the Society's Menagerie were the pair presented in 1869 by Sir Rutherford Alcock, K.C.B. (see P. Z. S. 1869, p. 468). The present pair were bred in the Zoological Gardeus of Berlin from imported parents.

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Dr. Franz Leuthner read an abstract of a Monograph of the *Odontolabini*, a subfamily of the Lucanidæ.

Dr. Leuthner commenced his work by giving an account of the circumstances which had led him to undertake the study of this small group of Coleoptera, in the hope of being able to throw further light on difficult problems connected with the origin of species. In the introductory part he dwelt upon the great difference of treatment which the same group of animals or plants receives from authors holding different views as to the limits of species—one author often placing a number of allied forms together, and another subdividing them into many so-called species. Having spoken of the necessity of examining a long series of specimens in different stages, and from various localities, before such questions can be definitely settled, he passed on to discuss the variability of the *Odontolabini*, a group in which the polymorphism of the secondary characters of the males reaches an extreme development. The females were very similar to each other, varying little except in size, but the males exhibited four very distinct phases of development of mandibles, for which the author proposed the terms *priodont*, *amphiodont*, *mesodont*, and *telodont*. These forms were sharply defined in some species, and in others were connected by insensible gradations, and the various forms had been treated by earlier authors as distinct species. All the four forms were not met with in every species, some exhibiting only one, two, or three of them. Dr. Leuthner also remarked on the variability exhibited by different por-

tions of the body in *Lucanidæ* in general. He then pointed out that most of the *Lucanissi* and *Dorcini*, unlike the *Odontolabini*, differed comparatively little except in size, whereas the latter subfamily must be regarded as polymorphic. The variability and plasticity of many *Odontolabini* was so great, that it was practically impossible to separate them into sharply distinct species. The chitinous portions of the male sexual organ were valueless as specific characters in this group.

In the second, or systematic part of his paper, Dr. Leuthner monographed the three genera *Neolucanus*, Thoms., *Heterochthes*, Westw., and *Odontolabis*, Hope, which form the subfamily *Odontolabini*, giving full synonymy, and carefully describing the female and the various forms of the male in each species.

This memoir will be published entire in the Society's 'Transactions.'

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The following papers were read :—

1. On the Tongues of the Marsupialia.

By EDWARD B. POULTON, M.A., F.Z.S.

[Received December 18, 1883.]

(Plates LIV., LV.)

I am greatly indebted to the kindness of our Secretary for supplying me from the Society's collection with a great part of the materials upon which this paper is written. I have received from him spirit specimens of the tongues of *Macropus*, *Belideus*, and *Didelphys*, and fresh specimens of those of *Petrogale* and *Dasyurus*.

Professor Moseley also very kindly gave me excellently prepared tongues of *Halmaturus*, *Phalangista*, and *Perameles*, and a spirit specimen of *Acrobates*. These specimens were obtained in 1874, and are described in the 'Notes by a Naturalist on the Challenger.' I was also fortunate enough to procure a living specimen of *Phalangista vulpina*.

In a previous paper ("The Tongue of *Perameles nasuta*") in the 'Quarterly Journal of Microscopical Science' for January 1883, I described a new type of compound filiform papilla, which I then thought to be peculiar to that animal and modified for the capture of insects. I now find that it is characteristic of the Marsupial tongue, and I propose for it the name "coronate papilla." During my work upon this organ I find it absolutely necessary to use new terms in addition to the old ones (which I retain as far as possible), as these latter do not cover the ground. I therefore add a provisional list of the technical terms used in such descriptions as are contained in the present paper. New terms are printed in italics.

Circumvallate papillæ.—Used in its old sense for the large bulb-bearing papillæ (or in some cases ridges) at the back of the upper